of pounds, in general skeletal development and weight and length combined. Size, in this sense, is probably regulated by the glands of internal secretion, race heredity, age of the mother, pluriparity, duration of pregnancy, sex of the child, and early puberty of the mother. Weight alone is dependent, for the most part, upon the amount of fat; this can doubtless be regulated to some degree by diet, hence the basis for argument used by Prochownik and his advocates.

The second method is by induction of labor. During the past few years we have noticed an increasingly strong attitude on the part of many medical men towards "Obstetrics by Appointment," with no attempt at selection of cases. As such, I believe the term "Obstetrics by Appointment" has been unnecessarily abused. However, in carefully and well selected cases I must believe that the procedure is not only justifiable but a duty of the physician in charge in his effort to reduce morbidity and mortality.

By a careful study of each case and a prenatal estimation of the size of the foetus by the various methods described, remembering that no one is perfect, but all corroborative, sufficient skill can be attained to enable one to determine rather accurately the development of the individual foetus in question.

In a series of 21 inductions for this purpose out of about 200 cases I have had no child larger than 50 cm. weighing 8 pounds 3 ounces, and no child smaller than 47 cm. weighing 6 pounds 3 ounces. This last was that of primipara having a funnel pelvis that was sufficiently small to cause dystocia in case of a large child.

The method of induction has been by use of the Voorhees hydrostatic bag, using No. 4 in all cases. Castor oil is usually given an hour or two before the induction. If labor is tardy in coming on, pituitrin in two minim doses is given and repeated every half hour as long as is necessary to definitely institute labor; there is seldom, however, any delay in the onset of labor after the introduction of the bag.

The bag is usually inserted without the use of an anesthetic; if, however, the patient be a nervous and irritable one, nitrous oxide is used, though only to the point of analgesia.

I do not advise the use of a hydrostatic bag without a keen realization of the complications occasionally associated with it. In my induced cases I have had one case of retained placenta and one of prolapsed cord. Whether these were in any way the result of the induction of premature labor, I am not prepared to say. Prolapse of the cord is a condition that occurs rather infrequently without the use of the bag and very seldom with it. DeLee in his experience has had two cases, thus showing the infrequency of it.

In this paper there has been no attempt at originality; it is only a plea for the reduction of the excessively high morbidity and mortality, both infant and maternal, in so far as postmaturity may be a factor in their cause. Let foetal mensuration be practiced as diligently as is pelvic mensuration and the time for labor be as accurately determined as possible by the maturity of the foetus, not by a guess on the part of the mother as to the duration of her pregnancy.

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LOW HAEMOGLOBIN IN OUR SURGICAL CASES.*

By WILLIAM H. GILBERT, M. D., Los Angeles, Cal.

Few of us go into a surgical operation without a careful examination of heart, lungs and kidneys.

Comparatively few make a careful blood examination in order to get a line upon the true reconstructive forces of the body. Physical appearances are often deceptive, and it is not unusual for a healthy appearing individual to present a blood picture far from the normal standard. I am satisfied, after trying out a routine blood study of all surgical cases, that it is a wise course to pursue. Of the routine blood examinations, we shall consider in this discussion only the relationship of haemoglobin to the operability of surgical cases.

The question often arises, "How low must the blood be in haemoglobin to prevent surgery?" Is there a hard and fast rule to follow? Those of you who have been compelled to operate with a percentage of haemoglobin lower than 40, will say that it is mighty close to the danger zone. Lower than this is "no man's land" and, while cases frequently cross the danger line and return in good shape, some fail to come back. No arbitrary rule, however, can be established.

Cullen reports recovery after a major operation in a case as low as 20%; and another successful case as low as 17%. These are exceptions and should not lead one into indiscriminate surgery. Far better to raise the haemoglobin by controlling the hemorrhage; by transfusion; by forced feeding; and by such other medicatioon as will bring the haemoglobin up to, or approximate, the safety line.

The causes of low haemoglobin, and its treatment, are so closely allied that it is wisdom to consider cause anl treatment together. Every case of low haemoglobin needing surgery is in a class by itself, and must be so considered. We will not consider them in the order of frequency but rather along certain clinical lines.

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Retained placental tissue or any of the products of conception play an important part in many of these cases. Frequently we see them with a percentage as low as 20%. The percentage of haemoglobin should be determined because of the disturbance in the balance of power, as pertains to infection. They do very well if not infected. Once the immunity balance is lost, infection plays a very strong lead and the patient succumbs rapidly.

It is wisely advised that hemorrhage is the only indication for interference in cases of incomplete abortion. Much has been said and written about whether or not to curette. Harm can be done by the use of the sharp curette, or rough treatment and trauma. The majority of these cases come to us with a soft, patulous cervix and an open os. It is not difficult, nor should it require great manual dexterity carefully to dilate the canal, and with blunt forceps gently remove any foreign body within the uterine cavity.

The other type of low haemoglobin in this classification, is found in the woman whose uterus has not emptied itself. The cervix is long, cone-shaped, and the canal partly dilated. Hemorrhage is often terrific. The uterine cavity fills with blood, the haemoglobin falls rapidly, and all of the indications point to a speedy emptying of the uterus by operative interference. The handling of this type is a very different and serious problem. If one tampon, and pursue a policy of watchful waiting, he may see the fires of infection gather volume. On the other hand, forcible dilatation and delivery have their danger of trauma. Like the rest of you I have tried all of the methods in use. Of recent years I am coming more and more to the belief that in Pituitrin we have a valuable remedy. It is surprising how a gentle dilatation of the cervical canal followed by an ampule of Pituitrin, will effectively empty the uterus. Truly has it been said that Pituitrin is the medical curette.

Tubal rupture is a common cause of low haemoglobin. While it is true that the proper time for operation is before rupture, we see cases frequently after rupture has occurred and some of them have bled to a point bordering on fatal exsanguination. I remember operating a case successfully, when the haemoglobin had dropped to 25% in eight hours. It had been diagnosed appendicitis with rupture, and only a demonstration of a rapidly falling haemoglobin convinced the attending physician that it was a ruptured tube.

Transfusion is of the greatest importance in raising the haemoglobin and should be resorted to whenever possible.

In looking over my records, I find eight cases of successful operation for tubal rupture with low haemoglobin ranging from 25 to 40%. I also note one fatal case of extra-uterine pregnancy with haemoglobin down to 32%. Two months after this patient's regular menstruation she had a slight bloody vaginal discharge. This continued off and on for about two weeks and stopped. One Saturday night while in her bath, she was taken with a violent pain in her left side and became dizzy and faint. She was assisted to bed and in a short time the pain subsided and she fell asleep. She awakened in the night feeling sick at her stomach and very cold. She became worse rapidly, and at noon I had the opportunity of observing her, just fourteen hours after the first sensation of pain.

It is needless to go further into the clinical picture. She was removed to the hospital and prepared for operation by transfusion, etc. She rallied in fairly good shape, but vomiting persisted and post-operative peritonitis developed from which she died on the fifth day. The low haemoglobin in this case was not the direct cause of death. Had she obtained early diagnosis and early operation the chances for fatal post-operative peritonitis would have been reduced to a minimum and, in all probability, her life would have been saved.

Practically all bleeding myomata have low haemoglobin. I find that I have had thirty-two cases with records of haemoglobin ranging from 10 to 60%. I recall one case that came into my office with a percentage as low as 25. I recall another case down to 10% which died because it was impossible to stop the bleeding or bring the haemoglobin to a point where she had an operable chance for her life.

As is well known, the location and not the size of the growth has every thing to do with the amount of hemorrhage. Myomata, of large size, as long as they do not encroach upon the cavity of the uterus, may be located within the uterine walls without hemorrhage. It is the submucous type, large or small, bulging and ulcerating into the cavity of the uterus, that causes bleeding. These cases, if haemoglobin is not too low, are very favorable for operation. Hysterectomy, either vaginal or abdominal, is well borne.

Three of my cases of low haemoglobin were due to adenomyomata of the uterus. Here we have a diffuse myomatous thickening of the uterine wall. The cavity of the uterus presents an irregular surface, the uterine mucosa passing into the crevices of the growth and the walls are sometimes filled with clearly outlined myomatous nodules. These cases bleed profusely at menstruation, with much pain. As a rule there is no inter-menstrual bloody discharge, although the period of menstrual bleeding is prolonged. The haemoglobin, as a rule, never reaches the very low point in these cases and they are good subjects for operation.

I have had a few cases of low haemoglobin in hyperplasia of the endometrium. These patients are generally between the ages of thirty-five and forty-five. They flow painfully and profusely during menstruation but have no inter-menstrual discharge. This condition gradually gets worse until a curettage is resorted to. Immediately, improvement takes place, which lasts from three months to a year, when they again start upon the same old order of symptoms.

A study of the endometrium shows it very much thickened, its surface often smooth, or it

may be studded with polypoid growths. Some of the uterine glands are enlarged, others smaller. The stroma is more cellular and the veins are very much dilated, forming sinuses, which may be filled with organized thrombi.

This condition is not necessarily limited to the middle-aged woman. It is occasionally seen in young girls. And, with these symptoms, hyperplasia of the endometrium should not be forgotten, especially if the percentage of haemoglobin be low.

Haemoglobin lower than 40% in cases of cancer, whether in the cervix or fundus, is a very bad prognostic sign.

One cannot too strongly emphasize the necessity of closely studying the cause of every bloody discharge in women around the menopause. This is especially true if this discharge be accompanied by a falling haemoglobin barometer that cannot be raised by proper treatment.

Those of you who have had the sorrowful experience of cancer returning after a radical operation realize the importance of early diagnosis. Those of us who are fighting cancer located in the uterus are much more fortunate than the internist. We can, for the purpose of pathological study, curette a suspicious case or remove a small section of suspicious tissue. It is little short of neglect, and is often suicide for our professional egotism, if we fail to do so. The report of a competent pathologist need not be taken with a grain of salt.

When cancer has advanced to a stage where the vagina is filed with a stinking, sloughing and bleeding mass, the haemoglobin down to 20 or 30%, the diagnosis has been postponed to a point where the operability and complete cure—to all practical purposes—has passed beyond the realm of surgery. Deplorable and hopeless as this condition is, it continues to exist in spite of all that has been said and written. Nor can we say, truthfully, that the error is entirely the fault of the unfortunate sufferer.

Quite recently a case walked into my office which for six months had been under treatment for "ulcer of the womb." The entire lower segment of the uterus had been destroyed and general metastasis had taken place. What a gloomy future to contemplate! Those of you who have had this experience realize how hard it is to tell the family, if not the patient, that she is rapidly approaching the exit and that it is only a question of time until the curtain will be lowered.

Early diagnosis of such cases is materially aided by a study of the haemoglobin. A steady fall in the barometer, which treatment does not relieve, a bloody discharge and a suspicious lesion in the cervix, call for immediate removal of a small section of tissue or the curettement of the uterus. The specimen, or scrapings, should then be examined by a competent pathologist. These cases, if operated upon before general or constitutional cancer sets in, invariably do well. In fact, 80% of all cases of cancer can be cured if taken in time.

Transfusion or the use of the X-ray is of little assistance in preparing these cases for operation. The sooner a radical operation is made—providing, of course, that the case is suitable for operation—the better the prognosis for immediate recovery and no recurrence of the cancer.

We might allude, at this time, to abdominal carcinosis. When this condition exists there is always unusual lack of resistance to infection. It seems that when cancer becomes more or less general in the abdominal cavity and is no longer limited or confined to a certain organ, that the disturbance in the balance of power in immunity is very marked. The patient succumbs rapidly to infection and one should, where an exploring operation is made, do so with the greatest respect for asepsis, trauma and the diffusion of cancer. Cancer, of course, in any of the organs always lowers the percentage of haemoglobin.

It is surprising how many cases of pelvic inflammation have low haemoglobin. It is no unusual thing to mistake a one-sided pelvic inflammation for a tubal pregnancy. I presume that most of us have opened the abdomen expecting to find a tubal pregnancy and have found pus tubes, large cystic ovary, hydro-salpinx or a general pelvic inflammation with adhesions. Generally the history of an infection, a blood-count, and elevation of temperature in the acute cases, will clear up the diagnosis. I find one case in my records with a haemoglobin as low as 25%. Long continued absorption from a septic pelvis had produced exsanguination as effectively as if there had been a bloody discharge. These cases do not behave so well, especially if the balance of power in immunity has been destroyed. Many of them have other pathological lesions in the kidneys, heart and liver, and, even if recovery is made from operation, the remote effects are jeopardized. Whenever possible, if the haemoglobin be lower than 40% they should be placed upon a highly nutritious diet and the vitality brought to a point where the operative chances for recovery are vastly improved.

In considering this subject many factors other than the ones I have mentioned reduce the percentage of haemoglobin. I might allude to hemorrhoids. Surprising how often they are the disturbing factor, and no case of low haemoglobin of mysterious origin should be treated without carefully inspecting the anus, rectum and colon.

I have had two cases of ulcer of the stomach, without hemorrhage, with haemoglobin lower than 40%.

It is wise to look to the haemoglobin in our pregnancy cases. One case I recall to mind was reduced to about 50%. Menorrhagia with low haemoglobin dependent upon a deficiency in thyroid and ovarian secretions is quite common. It is frequently relieved by the administration of the extracts from those organs. Amenorrhea and retroposition of the uterus are frequently accompanied by low haemoglobin. Pulmonary tuberculosis, or tuberculosis of any of the organs, is often accompanied by the same condition. Ovarian cyst, chronic ulcer of the cervix, chronic interstitial nephritis, mitral insufficiency, abscess of the

ovaries and in the pelvis, prolapsed rectum; in fact, many other factors are causes in the existence of low haemoglobin.

What conclusions can one draw as to the operability and preliminary treatment to be employed in these cases?

First: All cases lower than 40% should be carefully considered before operation, with the object of determining how best to raise the percentage.

Second: While these cases usually do well, the occasional death can be prevented by appropriate treatment before operation.

Third: Hemorrhage should be stopped if possible. Best means of doing so is by the use of the X-ray, curettage and packing.

Fourth: Every surgeon should familiarize himself with transfusion and have a suitable number of donors on hand upon whom tests have been made and the proper grouping determined.

Fifth: When cancer exists it is practically impossible to raise the haemoglobin to any great extent, or, if it be raised, to keep it up any length of time. If the hemorrhage is practically limited to menstrual bleeding, the operation should be postponed until a few days before the period in order to raise the haemoglobin as high as possible.

Sixth: These cases should not be given vigorous cathartics immediately before the operation or immediately after.

Seventh: Large quantities of water should be drunk during twenty-four hours previous to operation, and 20% glucose given per rectum two days proceeding the operation.

Eighth: If it be impossible to raise the haemoglobin, one can, with a clear conscience and a fair hope of success, operate when the haemoglobin is as low as 20%. Transfusion is the sheet anchor in these cases.

TEETH, TONSILS AND SINUSES.

By ROBT. B. SWEET, M. D., Long Beach.

The object of this paper is to classify diseases of the teeth, tonsils and sinuses under one heading, i. e., focal infections of the head. They have a common bacteriology, symptomatology, and cause common systemic disorders. Every examination of the head for focal infections should include all three as being but parts of a single disease.

If we can hold this concept in our minds, our examination will be more thorough, reference to either part implying a consideration of all three. It would be well if we had one term that included all three.

The teeth, tonsils and sinuses are the ports of entry, the Ellis Island, of most of the alien enemies of the body. Also the detention camps and distributing depots.

The pathogenic organisms common to the teeth, tonsils and sinuses are:

Staphylococcus, streptococcus, strepto-haemolyticus, veridans, pneumococcus, anthrax, Vincent's organisms, tubercular bacillus, influenza, diphtheria and diphtheroids, catarrhalis, cocco bacillus fetidus, mucosis, capsulatis.

Infections of the teeth, tonsils and sinuses can produce the following diseases:

Encephalitis, iritis, keratitis, ophthalmitis, conjunctivitis, dacrocystitis, rhinitis, pharyngitis, laryngitis, stomatitis, gingivitis, adenitis, Vincent's angina, otitis media, mastoiditis, sinus thrombosis, phlebitis, bronchitis, pneumonitis, pleuritis, gastritis, gastric ulcer, duodenitis, colitis, appendicitis, nephritis, arthritis, myocitis, osteomyelitis, septicemia, anemia, tuberculosis, psoriasis, erythema multiforma, lupus erythematosus, lichen planus, herpeszoster, asthma, ozena, hayfever, osteomyelitis, meningitis, choroiditis, choroiretinitis, pyelitis and cystitis.

And likewise the following symptoms:

Cephalgia, neuralgia, pains, fever, melancholia, insanity, tinnitus, lumbago, sciatica, vertigo, disturbances of blood pressure, headache (frontal, occipital, basal, temporal), pains in the head, pains in the neck, pains in the chest, pains in the back, pains in the legs, vertigo, tinnitus arum, mental depression, decreased cerebration, loss of weight, loss of strength, loss of appetite, loss of ambition and nervous exhaustion.

How foolish then to examine the teeth and disregard the tonsils; how foolish to treat tonsils and disregard the teeth. How can a man be justified in treating any conditions of the eye, even refractions, without ascertaining the state of the teeth, tonsils and sinuses?

Teeth diseased beyond redemption should come out. Tonsils that are diseased, and all tonsils are diseased, should come out.

Dentists give us weighty papers on apical abscesses, pyorrhea, etc., and never mention the condition of the tonsils or sinuses in a given case. On the other hand, how frequently we lay all our money on the tonsils as our best bet, in total disregard of the teeth, and then wonder why all the results we have promised do not materialize.

All this suggests the necessity of team work, but it means more than the usual team work. It calls for a large comprehensive view of the whole subject of focal infections of the head conceived in one man's mind and the patient given the benefit of the judgment of one who regards infections of the teeth, tonsils and sinuses in their entirely as a single disease.

CLIMACTERIC HYPERTENSION.*

By ROLAND CUMMINGS, M. D., Los Angeles.

The Etiology of increased blood pressure is so elusive that every possible lead has been carefully considered and duly followed, it is sad to say, however, with very indifferent results. Of late years owing to the frequency in which a rise of pressure has been noted at the period of the menopause, a common factor in the causation of both the Climacteric and hypertension have been and are still being carefully studied.

The entrance into puberty and the onset of the menses are ushered in by the ripening of the ovum and the formation of the corpus luteum. The metabolic changes which take place in the organism of the developing woman are believed

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